

## **ABSTRACT**

### **EXTENDED GUIDE RINGS WITH BUILT-IN SLURRY SUPPLY LINE**

The purpose of the present invention is to provide a carrier mechanism, that polishes the wafer equally across the wafer surface by circumventing the problems caused by "pad rebound" or "waving phenomenon" during polishing. In doing this, pressure against the pad at the edge of the wafer will be equal to that at the center resulting in uniform pressure on the wafer during polishing and even planarization of thin film semiconductor material. One embodiment of the present invention uses a wider extension ring causing the pressure stress concentration point to occur just inside the outer edge of the extension ring and away from the wafer. This allows for constant pressure application to the surface of the wafer and results in uniform material removal across the wafer surface. A second embodiment of the present invention uses a wider extension ring having a slurry channel and a plurality of passageways. Slurry is dispensed into the channel and is directed to the polishing pad and wafer through the passageways. This feature allows slurry to be applied more directly to the wafer, resulting in improved wetting of the polishing pad and reduction in slurry usage. Again, with the wider extension ring, the pressure stress concentration point on the polishing pad occurs under the extension ring and away from the wafer resulting in uniform material removal across the wafer surface.

**(FIGURE 3 IS SUGGESTED FOR PUBLICATION)**